

The Examiner is kindly invited to the remarks in Applicant's amendment filed under Rule 116 on October 6, 2004. In such remarks, the combination of Riley with Fetzer is discussed. The Examiner in the Final Rejection has argued that such arguments were not persuasive in that "Fetzer nowhere discloses that beta zeolite is removed from the disclosed process after stage B, as applicant appears to suggest." The Examiner's statement is not readily understood. There is actually no reason why the catalyst would be transferred from stage B to stage C in Fetzer. The Fetzer process involves a gas stream which flows through the bed of catalyst. The catalyst remains in the bed while the gas stream would then be directed to an additional stage. The Examiner is kindly invited to Fetzer, column 6, lines 1-3 where it is stated that the stages in the apparatus are preferably interconnected "in such a way that the gas stream can pass through the stages in succession." Accordingly, it is still the Applicant's contention that while Fetzer may disclose a beta zeolite for reducing  $N_2O$ , the patent does not remotely suggest that the method for reducing  $N_2O$  in the presence of beta zeolite is done with an ammonia reactant. The use of ammonia in Fetzer is strictly disclosed for the "reduction of nitrogen oxide other than  $N_2O$ ", column 4, lines 35-36.

It is Applicants who have found that the simultaneous reduction of  $NO_x$  and  $N_2O$  with ammonia can be achieved effectively with beta zeolite. Accordingly, it is not believed that the combination of Riley and Fetzer renders obvious and unpatentable the claimed method which involves the simultaneous reduction of  $N_2O$  and  $NO_x$  with ammonia and in the presence of a beta zeolite. Catalytic processes being notoriously empirical, the mere suggestion of using beta zeolite without  $NH_3$  to reduce  $N_2O$  does not suggest or render obvious the claimed process. Withdrawal of the rejection is respectfully requested.

Claims 3, 5-7, 10-14 and 18 have been Finally rejected under 35 USC 103 (a) as being unpatentable over Kato et al. (U.S. 4,571,329) in view of Fetzer'928. The Examiner states that Kato discloses a process for the ammonia reduction of nitrous oxides comprising contacting nitrous oxide containing gas with ammonia and a zeolite and discloses the removal of  $NO_x$  and  $N_2O$ . The Examiner admits that Kato fails to disclose beta zeolite for the selective simultaneous reduction. The Examiner again applies

Fetzer'928 as disclosing a beta zeolite and concludes it would have been obvious to one of ordinary skill in the art to use the beta zeolite of Fetzer in the nitrous oxide decomposition of the primary reference. The rejection is respectfully traversed.

The Examiner is again kindly invited to the remarks presented on October 6, 2004 relative to the rejection of Kato et al. in view of Fetzer. With respect to the earlier comments, Applicants stated that there is no disclosure in Kato to treat a stream which contains  $N_2O$ . Applicants now understand that such remarks are not entirely accurate as Kato does suggest the treatment of a gas stream which contains  $N_2O$ . In particular, however, it appears that Kato is concerned with treating a gas stream which contains  $N_2O$  as the product of the ammonia reduction of  $NO_2$ , see column 5, lines 19-46. Applicants further note that Kato discloses that the catalyst used should be active for both the reduction of  $NO_2$  to nitrogen and the reduction reaction of  $N_2O$  to nitrogen. Importantly, however, as admitted by the Examiner, Kato does not disclose the use of beta zeolite for the reaction. While other zeolites are disclosed, beta zeolite is not among those listed.

Again, the Examiner relies upon Fetzer to disclose the use of beta zeolite to react and reduce an  $N_2O$  content of a gas stream. However, as stated above Fetzer is not concerned with the ammonia reduction of  $N_2O$  in the presence of beta zeolite. It is the Applicants who have discovered that zeolite beta can be effectively used for the simultaneous reduction of  $NO_x$  and  $N_2O$  with ammonia. Neither Kato et al. which does not disclose zeolite beta nor Fetzer which discloses zeolite beta but not in a reaction which involves ammonia suggest or render obvious what applicants have found. The Examiner is kindly invited to Figure 8 of the present application and the discussion thereof on page 11, line 25 through page 12, line 4 of the instant specification. These results are not suggested by the combination of references. Withdrawal of the rejection is respectfully requested.

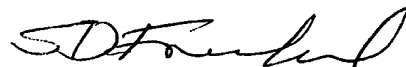
Claims 3, 10-11 and 18 have been Finally rejected under 35 USC 103 (a) as being unpatentable over Tsuchitani et al. (U.S. 5,756,057) in view of Fetzer'928. The Examiner states that Tsuchitani discloses a method for removal of  $NO_x$  comprising contacting a stream containing  $N_2O$  with a reducing agent such as ammonia and a catalyst comprising a zeolite. The Examiner states that the primary reference fails to disclose beta zeolite. The

Examiner relies upon Fetzer as disclosing beta zeolite and concludes it would have been obvious to one of ordinary skill in the art to use the beta zeolite of Fetzer in the decomposition process of the primary reference. The rejection is respectfully traversed.

The Examiner is again kindly invited to the remarks set forth in the Rule 116 amendment filed on October 6, 2004, in particular, with respect to the rejection of Tsuchitani in view of Fetzer. Importantly, Applicants again point out that Tsuchitani is not concerned with the simultaneous reduction of  $\text{NO}_x$  and  $\text{N}_2\text{O}$ . Tsuchitani involves a first step of oxidizing the nitrogen oxide components to  $\text{NO}_2$ . It is after the oxidation step that a reducing substance is introduced into the exhaust gas. The reducing agent can be ammonia. Accordingly, the primary reference does not suggest the simultaneous reduction as set forth in the claims and, thus, even if Fetzer were combinable with same, the combination would not teach or render obvious the claimed process. Further, Fetzer is not concerned with the use of beta zeolite to reduce  $\text{N}_2\text{O}$  in the presence of ammonia. It is the Applicants who have found that a zeolite beta is particularly useful for the simultaneous reduction of  $\text{NO}_x$  and  $\text{N}_2\text{O}$  with ammonia.

In view of the above remarks, it is respectfully requested that the Final Rejection of claims 3, 5-7, 10-14 and 18 be withdrawn and that this application including all the claims therein be allowed.

Respectfully Submitted,



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Enclosure  
SDF/ah